# ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

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| Title of Invention | Shear wave velocity determination using multi-pole wave |
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Application Number :        10/783426

Confirmation Number:        6364

First Named Applicant: .      Samuel Haugland

Attorney Docket Number:     PAT029US

Art Unit:        *2857*

Examiner: .        Donald E McElheney Jr.

Search string:        ( 6661737 or 6671224 or 6678616 or 6714480 or 6766252 or 6791899 ).pn

## US Patent Documents

**Note: Applicant is not required to submit a paper copy of cited US Patent Documents**

| init | Cite.No. | Patent No. | Date | Patentee | Kind | Class | Subclass |
|---|---|---|---|---|---|---|---|
| | 1 | 6661737 | 2003-12-09 | Wisniewski et al. | B2 | | |
| | 2 | 6671224 | 2003-12-30 | Pabon | B1 | | |
| | 3 | 6678616 | 2004-01-13 | Winkler et al. | B1 | | |
| | 4 | 6714480 | 2004-03-30 | Sinha et al. | B1 | | |
| | 5 | 6766252 | 2004-07-20 | Blanch et al. | B1 | | |
| | 6 | 6791899 | 2004-09-14 | Blanch et al. | B2 | | |

## Signature

| Examiner Name | Date |
|---|---|
| | 07/19/05 |

Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE
# STATEMENT BY APPLICANT

*(use as many sheets as necessary)*

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| **Complete if Known** | |
| Application Number | |
| Filing Date | |
| First Named Inventor | S. Mark Haugland |
| Art Unit | 2857 |
| Examiner Name | |
| Attorney Docket Number | PAT029US |

| Sheet | 1 | of | 1 |
|---|---|---|---|

## U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Document Number — Number-Kind Code (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
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| ᴏᴋ | AA | US- 4,698,792 | 10-06-1987 | Kurkjian et al. | |
| ᴏᴋ | AB | US- 5,278,805 | 01-11-1994 | Kimball | |
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## FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Foreign Patent Document Country Code-Number-Kind Code | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T¹ |
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## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published | T¹ |
|---|---|---|---|
| ᴏᴋ | AD | X. M. Tang, et al., "Shear-Velocity Measurements in the Logging-While Drilling Environment: Modeling and Field Evaluations," Petrophysics, Vol. 44, No. 2 (March-April 2003), pp. 79-90. | |
| ᴏᴋ | AE | G. L. Varsamis, et al, "LWD Shear Velocity Logging in Slow Formations Design Decisions and Case Histories," SPWLA 41st Annual Logging Symposium, June 4-7, 2000, Paper O. | |
| ᴏᴋ | AF | C. H. Cheng and M. N. Toksoz, "Elastic Wave Propagation in a Fluid-Filled Borehole and Synthetic Acoustic Logs," Geophysics, Vol. 46, No. 7, July 1981, pp. 1042-1053. | |
| ᴏᴋ | AG | D. P. Schmitt, "Shear Wave Logging in Elastic Formations," J. Acoust. Soc. A., 84(6), December 1988, pp. 2215-2229. | |
| ᴏᴋ | AH | M. T. Taner, F. Koehler, and R. E. Sheriff, "Complex seismic trace analysis," Geophysics, Vol. 44, No. 6 (June 199); pp. 1041-1063. | |
| ᴏᴋ | AI | C. H. Cheng and M. Nfi Toksoz, "Determination Of Shear Wave Velocities In "Slow" Formations," SPWLA 24th Annual Logging Symposium, June 37-30, 1983, Paper V. | |
| ᴏᴋ | AJ | Georgios L. Varsamis, et al., "A New MWD Full Wave Dual Mode Sonic Tool Design And Case Histories," SPWLA 40th Annual Logging Symposium, May 30 – June 3, 1999, Paper P. | |
| ᴏᴋ | AK | F. EL-Wazeer, et al., "Applications For A Full Wave Sonic LWD Tool in the Middle East," Society of Petroleum Engineers 13th Middle East Oil Show & Conference, April 5-8, 2003, SPE 81474. | |
| ᴏᴋ | AL | Jennifer Market, et al., "Processing and Quality Control of LWD Dipole Sonic Measurements," SPWLA 43rd Annual Logging Symposium, June 2-5, 2002, Paper PP. | |
| ᴏᴋ | AM | Chaur-Jian Hsu and Kikash K. Sinha, "Mandrel effects on the dipole flexural mode in a borehole," J. Acoust. Soc. Am. 104(4), October 1998, pp. 2025-2039. | |

| Examiner Signature | | Date Considered | 07/19/05 |
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication with applicant.
¹Applicant is to place a check mark here if English language Translation is attached.